



METEOR 3000



*N. Edward Berg
Chairman of Board and President
Bedford Computer Corporation*

“We Bring Vision to Industry”

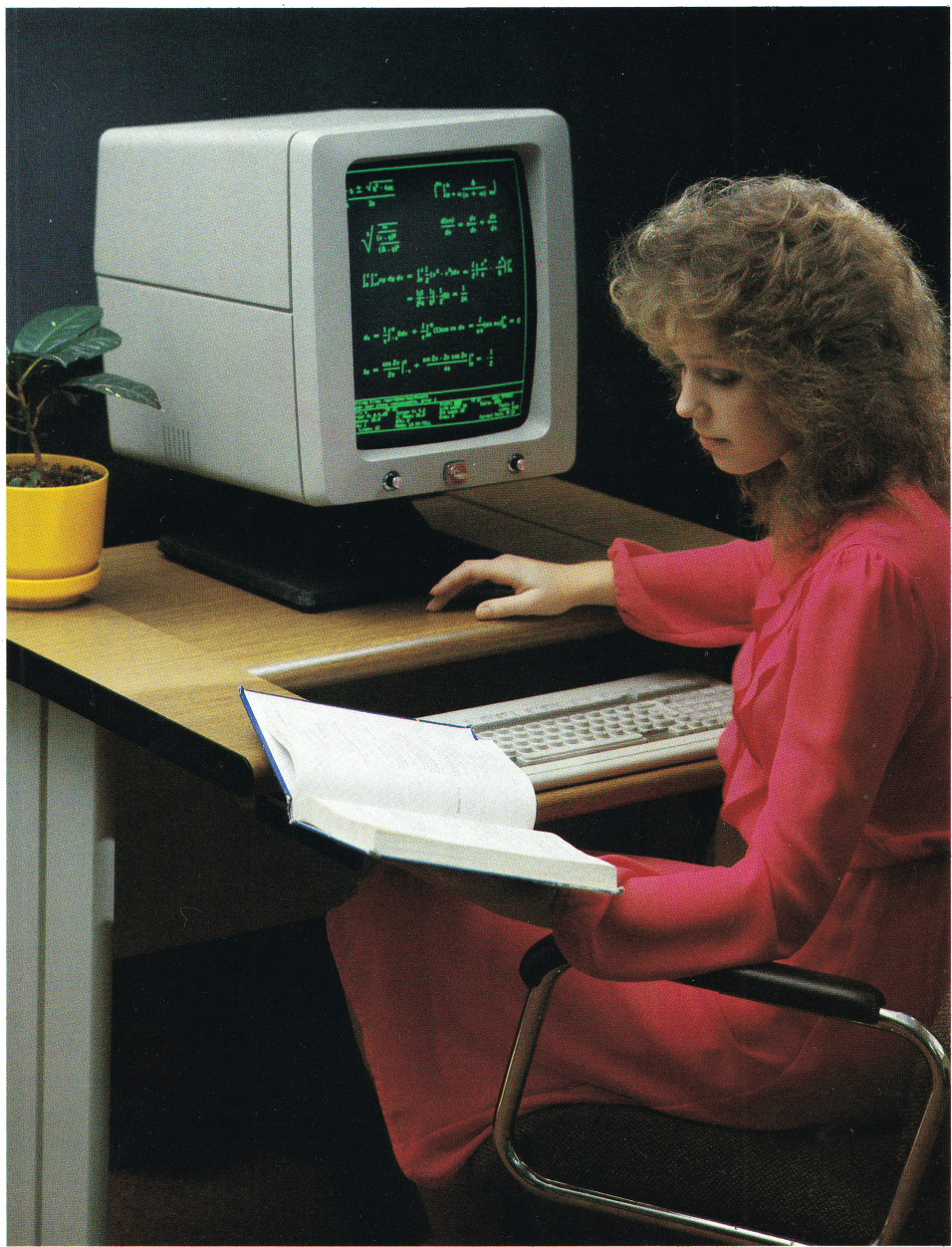
Bedford Computer Corporation develops, manufactures and markets computer graphic composition systems which are used in the graphic arts industry by financial and legal printers, newspapers, textbook and magazine publishers, and trade typographers.

Bedford Computer was founded in 1975 by N. Edward Berg. He serves as Chairman of the Board, President, Chief Executive Officer and Director. His direction and the dedication of our employees have made Bedford Computer Corporation the leader in its field.

Our Bedford Real Time Computer Graphic Composition System, when first introduced, was able to increase the productivity of composition craftsmen and reduce the composition time of a printing project. Today, our advanced Vision Network System can produce a fully composed page of text and artwork which increases the customer's productivity and lowers costs.

We market our systems both domestically and internationally through our own sales force and independent distributors. Currently, we have over 100 installations of our systems worldwide.

In only a short period of time, we have emerged as an innovative and reliable graphic composition system developer. We look forward to meeting the continued challenges of this growing field. At Bedford Computer, “We Bring Vision To Industry.”



THE VISION NETWORK SYSTEM

The Vision Network System from Bedford Computer opens a new world of technology to the composition marketplace. Using state-of-the-art computerized workstations and peripheral equipment, Bedford links its workstations by a local area network, the highly efficient Ethernet, specially enhanced by Bedford.

A system is more than just a collection of terminals. It is the integration of all components—pagination terminals, input alternatives, storage devices, personal computers, laser proofers, line printers, typesetters, telecommunication ports and other peripherals—into a totally cohesive entity. The Vision Network System is expandable in all these functions plus many more. Each Meteor Workstation is based on its own independent pro-

cessing power, the Motorola MC68000 microcomputer, and thus becomes an individual "node" on the network. The workstations are used as building blocks to create the optimum configuration for the particular use of a customer.

Since each station has its own microcomputer as its computation source, The Vision Network System has quick response time and throughput regardless of the activity on other workstations. This workstation integrity is far superior to shared-logic systems noted for performance degradation as

particular users tax the central processing unit of those systems.

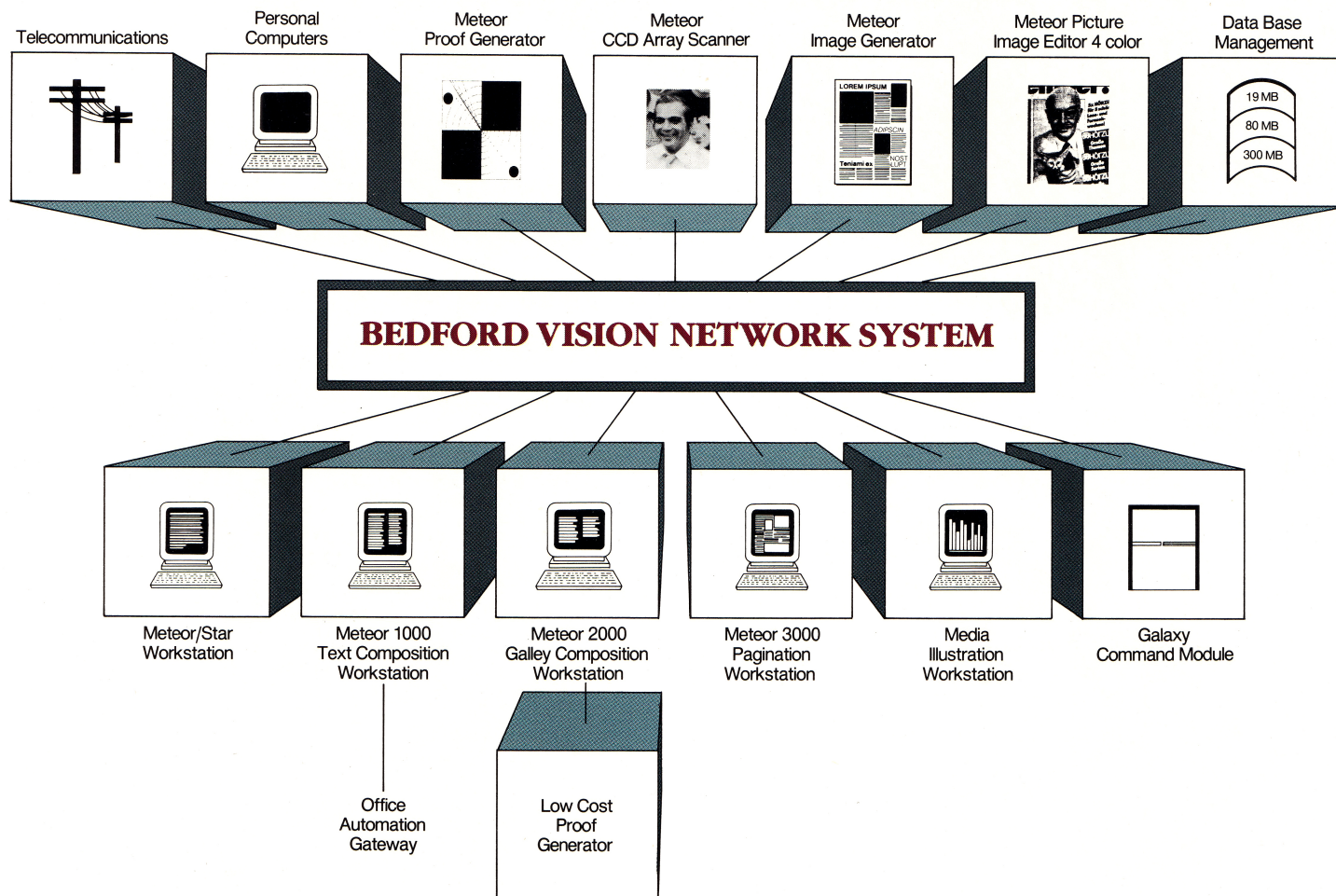
COST CONSIDERATIONS

As important as performance is the cost factor in selecting a new pre-press system.

Bedford Computer has designed a family of meteor workstations, each with near-unlimited modularity, to offer "customized" configurations at extremely low cost. The family consists of the Meteor 3000 Pagination Station, the Meteor 2000 Galley Composition System, the Meteor 1000 Text Composer and the Meteor/Star.

Galaxy configurations can range from single-terminal Meteor production centers to up to 254 stations on the Bedford-enhanced Ethernet.

THE VISION NETWORK SYSTEM



SUPER-SOPHISTICATED SOFTWARE

Bedford Computer has been years ahead of the competition, featuring Real Time interactive pagination in the most "user-friendly" approaches in electronic composition.

Powerful software packages for text composing, hyphenation and justification, word processing, area composition and full pagination are standard on particular Meteor workstations. And a wide range of options including Bedford Math and distributed Bedford Batch are available.

A UNIVERSE OF FUTURES

Modularity. Powerful software. Low cost. Reason enough to go with Bedford and The Vision Network System.

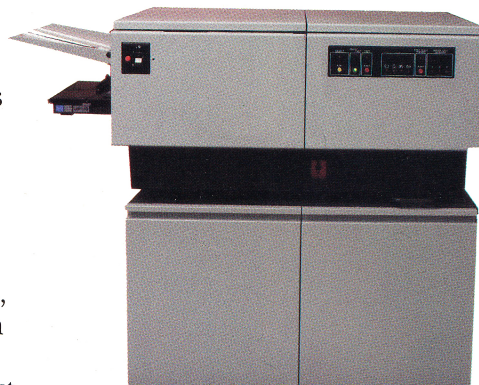
But perhaps, the best reason of all

can be found in Bedford's research and development efforts. While competitors have announced their intentions to engineer graphic capabilities and other "futuristic" features, Bedford has quietly been building an array of products others only hope to approach over the next few years.

Bedford is evolving as one of the few single-source providers of pre-press automation. Input scanners, text composers, pagination stations, laser printers and "fifth" generation graphic-setters. True font displays, line and halftone editing, and output of merged text and art on both proofing units and plate-ready film, with total imposition control.

All that and more is the Bedford universe of futures presently completing development stages

and scheduled as new product introductions through 1984 by our marketing department.



And, Bedford is ready to show any prospective customers just where we are in development. Not in a "canned" demo. Not in a "presentation." But in reality. On your terms. With your sample work.





BEDFORD CAN SERVE YOU

The Vision Network System and a host of unique software packages make Bedford the ideal choice of inplant printers, typographers and commercial printers, magazine publishers and daily or weekly newspapers.

Never before has one company been able to adequately address the rigorous applications of the entire graphic arts marketplace. Until now. Bedford has the concept, the architecture and the software to satisfy the small typesetter or the metropolitan newspaper.

And Bedford has a dedicated staff to assure ALL customers, regardless of size, prompt attention to satisfy their particular needs.

Above, the Motorola 68000 microchip.

Opposite, top, Bedford Computer Corporation's Laser Image Proofer.

Below, Bedford's ergonomically designed keyboard.



THE METEOR 3000 PAGINATION STATION

The Vision Network System's most powerful workstation is the Meteor 3000 Pagination Station.

The Meteor 3000 acts as a replica of the finished page. Not only does Bedford boast that "what you see is what you get," we also say that "what you see is what you edit." Composition on the Meteor 3000 screen means no markup clutter. Text and command codes are never jumbled together into an undecipherable mess. If you set a point size, you see that point size. Typography becomes direct. If you picked an unappealing point size or if an ad line must be adjusted in order to fit, the typographic problem will be seen on the screen and can be solved on the same screen with a simple keystroke.

The Pagination Station operates interactively, in Real Time. Real Time means instantaneously. There is no delay between what the operator types and when it appears on the screen. Real Time is the answer to applications where page layout and overall "look" is important. Real Time shows rehyphenation and repagination instantly and it gives you the fast response necessary for human interaction.

Since the Meteor 3000 allows for area creation and manipulation, page layout becomes extremely simplified. The operator may divide a page into any number of regions or areas. These areas are physical positions on a page and can be positioned anywhere the operator chooses. By connecting areas so that they overflow into other areas, a page can be laid out and text flowed in from any galley file prepared by any other workstation on The Vision Network System, whether it be another Meteor 3000, or a Meteor 2000 Galley Composition Station, or a Meteor 1000 Text Composer. Areas can be prepared to do a run around by using simple

keyboard commands or by using the graphics tablet to draw the irregular edges. Text will conform to the irregular edge while the operator works, so run arounds are no longer a hit and miss proposition.

Bedford's Real Math takes the difficulty out of even the toughest technical typography. Simple keyboard commands produce complex, multi-level equations and chemical formulas all properly spaced and in their correct weight. Thousands

of math symbols and Greek characters are shown on the screen just as they will be set.

Typesetters and proofing stations are driven by specially configured Meteors which can support from 19 megabytes to 1.2 gigabytes of storage. Called Galaxy Command Modules, these stations act as traffic controllers in two queue modes. The "ready" queue contains those files to be sent, in order, to the typesetter or proofer. A "wait" queue stores files until an operator is prepared to move the finished page to output.

The process converts the composition coding to typesetter commands, and lines are sorted in



increasing depth of baseline, meaning multicolumn material and superiors can be typeset without reverse leading.

Typesetter dressing assists, customer definable font programs and other features make the Meteor 3000 a state-of-the-art workstation that competitors may take years to approach.

3000 COMPOSITION POWER

The Meteor 3000 Real Time terminal screen displays a dot by dot representation of text. All characters appear in their correct size, width and weight.

Text is proportionally spaced, bold faces are drawn heavier than roman faces, and italic faces are slanted. Similarly, pi characters appear in a form representative of their appearance in final typeset copy.

Any entry or change the user makes is immediately apparent on the screen.

For the ultimate in composition keyboard efficiency, each key is capable of generating up to 45 different characters or commands.

And for user ease, the Meteor 3000 allows viewing text in a variety of scales from one-quarter size to three times true size depending on the scale command the user chooses.

In the "quick paint mode," the Pagation Station will display text as horizontal lines, except for the line containing the cursor, which is displayed in true character form.

This mode speeds up galley handling, especially when a user is making line corrections from a marked-up proof. The Meteor 3000 lets the user search for that line to be corrected, speeding through other text in a horizontal line representation.

The bottom portion of the Pagation Station screen features a status display area which gives each user current information about the open page file such as measure, leading, cursor position, font, point size and the character to the left or right of the cursor. Also, the display keeps track of the current line number and the total number of lines in the file, which scale is being used and



which hyphenation and justification commands are in effect.

The Meteor 3000 command structure also at times responds with a request for additional information. These prompts not only make the system more "user-friendly," but responses are checked out by the Meteor 3000 for syntax and value validity before each command is allowed to affect the displayed text.

In addition to standard cursor movements, the Pagation Station

offers a second cursor, called a "mark," which may be used to delimit a character, word, sentence, paragraph, block or file for search and replace. A second invisible mark is also allowed as a placeholder for the cursor.

Scrolling on the Meteor 3000 is both vertical and horizontal, with the Bedford screen acting as a window on the file for maximum scrolling opportunity. Search and replace features may be particular or global.

The Meteor 3000 operates by allowing the user to select the typographic parameters for a collection of lines called a "block." The block may be thought of as the environment for the text it contains. All lines in the block must observe the same measure, tabs, leading, justification mode, spacing and space band parameters.

But the user is free to create blocks at any time, even within other blocks, to yield total user versatility. Hyphenation and justification in the Pagination Station are superpowerful, allowing the user complete control over the "look" of his galleys. Underlining, horizontal and vertical rule capabilities on the Meteor 3000 allow a wide variety of weights, restricted only by the phototypesetter being used by the operator. A number of different fixed spaces are available.

Tabs, indents, and change-over range commands round out the highlights of a dynamic composition package that puts the Meteor 3000 in a class by itself.

Each Meteor 3000 comes with a standard Bedford Advanced Ethernet interface to allow full user access to all stations on The Vision Network System.

The Meteor 3000 Pagination station is based on the Motorola MC68000 with up to 2 megabytes of memory. The Bedford detachable keyboard is user programmable, and offers 128 touch-sculptured keys in keypad layouts that are "user-friendly."

Each station comes with a standard Bedford Viewscreen Power Painter to speed up display of text and areas on the screen.

Storage includes a 320 kilobyte floppy disk drive and a 19 megabyte Winchester hard disk. In addition to serving as a convenient software loader and diagnostic checking device, the floppy disk drive affords each user with "private" filing capabilities for confidential storage. Each floppy disk may be hand-carried to other Meteors for work whenever the

Pagination Station is tied up during maintenance.



And the Meteor 3000 may be expanded for storage from 80 to 1,200 megabytes.

A range of output options, including Bedford's own Laser Image Proofer, are also available.

THE GALAXY COMMAND MODULE

The galaxy Command Module offers any system configuration the versatility of a low cost "node server" to boost workstation productivity. Mass storage of up to four 300 Megabyte disk drives, up to two typesetters along with the Bedford Laser Proofer, and such devices as a magnetic tape unit, telecommunication ports and other input/output devices can be supported and linked to The Vision Network System.

Above, the graphics tablet option is used with the Meteor 3000.

At left, complex text is paginated in real time on the 3000 viewscreen.





WHAT'S AHEAD IN 1984

The Meteor 3000 will offer the following enhancements in optional software and hardware releases currently under final development.

Ask your Bedford sales representative or dealer when these new products will be made available to your area:

BEDFORD BATCH: A new module offering powerful batch processing capabilities in addition to your Meteor's Real Time pagination and running formats. Coupled with The Vision Network's dynamic distributed processing modes, Bedford Batch can handle the most complex tasks faster than conventional batch processing techniques. And overall typography or "look" of the job will be far superior.



BEDFORD IMAGE GENERATOR: A "fifth" generation typesetter with full font, line art and halftone output capabilities, page imposition, and a host of throughput features unmatched by anyone in graphic

arts. And at a price lower than many "basic" third generation units.

IMAGE SCANNING: Line art and continuous tone scanning designed by Bedford to cost less, do more, and do it faster. At Bedford, image scanning of photographs is a five-second process!

REAL FONT DISPLAY: Lets users display true fonts on the viewscreen, rather than dot representations. A dramatic tool for ad composition and page design.

GRAPHICS DISPLAY AND EDITING: Line art, halftones, and text merging, full graphics editing, and electronic airbrushing for black and white work.



Opposite, complicated tabular material and rules and simplified with The Vision Network System.

Above, left, batch processing capabilities

are a standard feature with Meteor 3000.

At right, Real Font display is shown on a Meteor viewscreen.

SUMMARY OF FUNCTIONAL CAPABILITIES

OPERATING SYSTEM

UNIX operating system
Programs written in "C"

TEXT INPUT

Keyboard at Meteor 3000, Meteor 2000, Meteor 1000, or Meteor/Star
Keyboard at input/edit terminals
Input via magnetic tape or floppy disk
Word processor input

EDITING FUNCTIONS

Copy may be inserted, deleted or moved
Text affected by change is immediately rejjustified

Text block defined by:

- Character
- Word
- Sentence
- Paragraph
- Cursor to mark
- From cursor to beginning of text
- From cursor to the end of text
- All of text

Total search capabilities

- Search for a string
- Search and replace
- Global search and replace 13 pairs
- Search depends on point size and/or font
- Both the search and replace may involve matching font and/or point size

Dingbats to indicate altered lines
Dingbats can be turned on or off
Manual dinging of lines

TYPOGRAPHIC FUNCTIONS

Optimum space band justification
Logical and exception word dictionary hyphenation:

- Customer definable exception dictionary
- Discretionary and forbid hyphen

Minimum, maximum and optimum word spacing

Automatic font dependent kerning

Customer definable kerning

Automatic ragged left, right or center

Text in rectangular or irregular shapes

Size-dependent white space reduction

Real time editing of typography as well as text

Four types of leading:

- Interline
- Added to line which stays with text
- Added to line which stays in position on page
- Secondary leading

DISPLAY CHARACTERISTICS

Screen is a digitized simulation of the typesetter output

Only real characters displayed-no mark-up clutter

Text hyphenated and justified on screen in real time

Characters appear in proper size, weight and position

Screen zooms from 25% to 300% actual size

Vertical and horizontal cursor scrolling

Display may be black and green or black and white.

Status area at the bottom of the screen contains:

- Command parameters (block, area)
- Error messages
- Number of lines in total file
- Line that cursor is currently positioned on
- Depth and position of cursor in picas, points, and hundredths of points; also in millimeters, inches, ciceros and didots
- Font face and size
- Block and area names
- Vertical and horizontal measure
- Leading
- Added leading
- Screen scale size
- Dictionary functions enabled or disabled
- Justification mode (ragged right, center, left or fully justified)

Flexible cursor movements

Commands in conversational mode

PAGINATION

Interactive pagination

Automatic pagination with formats

Operator defined page parameters

Multi-column pages with changes in measure

Operator-named columns for easy access

Page parameters may be stored as a reusable format

Page layout limited only by the typesetter capacity

Text may be rectangular or irregular

Text may have open areas for illustrations

Easy repagination-changes column widths or depths

Vertical justification with vertical space-bands

Text in one page can be read and inserted into another

Paragraphs may be moved from one page to another

Page makeup from keyboard or tablet

Page composition may be altered before or after text is inserted

Automatic text flow

ASCII files may be read in

COMPLEX MATERIAL

Automatic math spacing

Unlimited levels in math/chemistry

Hanging indents

Easy initial capitals

Simplified entry of rules and boxes

Rules and boxes may be stored in formats and recalled at any time

Horizontal or vertical entry of tabular material

Tables accurately displayed with leaders, spacing, straddles and justification of tab fields

Easy adjustment of all or individual tabs

Tab fields may be set to tenths and hundredths of a point

Up to 50 different sets of tabs, each containing up to 50 tab stops

FORMATTING

No practical limit to the number of formats

Formats may contain any mixture of commands or texts

Formats may be of any length

Commands and text in a format may be edited

Interactive formats

Format merge to the keyboard for input and merge back to format

Global format library

Conditional formats

Nested formats

Formats may be defined in real time or in format mode

Formats may be edited within a page

OUTPUT CAPABILITIES

Output files to laser proofer or dot matrix printer, for inexpensive proofs

Output to all typesetters in slave mode

Output to multiple typesetters available

No reverse leading required for multi-column output

Output may be single line, page or a group of pages

FILE MANAGEMENT

No limit to number of directory levels

Directory lists:

- Name of file (operator defined to fourteen characters)
- Type of file
- File size
- Date and time of creation

Number of files limited only by disk storage space

Variable file size wastes no disk storage

Files may be accessed from any terminal

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BEDFORD

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